

### **REMARKS**

Claims 25-31 and 35-51 are now in this application.

Claims 26, 27, 29, 31, 37, 39-47, and 49 have been withdrawn from consideration.

Claims 50 and 51 have been added.

The examiner has objected to the drawings for failing to show jacket lines. Any references to these jacket lines have been deleted from the specification and claims. In view of this, we request that the examiner withdraw the objection to the drawings.

The examiner has objected to the specification for an informality in paragraphs [0034] and [0035]. It is requested that the examiner review the preliminary amendment filed February, 2005 and specifically the amendment to paragraph [0034]. Reference number 11 has been changed to 14. We also cannot find a reference to "injection openings 11" in paragraph [0035] as pointed out by the examiner. In view of this, we request that the examiner withdraw the objection to the specification.

Claim 25 has been amended to incorporate claims 28 and 32. The examiner has rejected claim 32 as being unpatentable over Haeberer in view of Schorr stating that the Haeberer reference shows grooves (55) but lacks the grooves being a width of 5 um to 50 um. The examiner then relies on the Schorr reference to overcome the feature lacking in the Haeberer reference and to teach the width of the groove being a " results-effective variable." We do not agree that the Haeberer reference shows elongated grooves (55) which extend beyond the injection openings (55) as now recited in amended claim 25. Nor does the reference to Schorr teach elongated grooves extending beyond the injection openings. The

grooves of the Schorr reference are positioned above the pressure chamber 19 and are used for centering the valve member 5. They have no relationship whatsoever to the function of the grooves of the Haeberer reference and thus cannot properly be used as a teaching to modify the grooves of the Haeberer reference.

Claim 33 has been canceled and replaced by new claim 50, which incorporates claims 25, 28 and 33. The grooves of Haeberer extend from the groove edge (39) to the first edge (46) of groove (42). By contrast, in Figure 5 and new claim 50 of the application, the elongated grooves (38) have an end located inside the annular groove (25). Neither the Haeberer nor Schorr references show this. The elongated grooves shown in the application having an end inside the annular groove provide the advantage that the annular groove (25) is thus hydraulically connected to the recess (35) even when abrasion takes place between the valve needle and the valve seat.

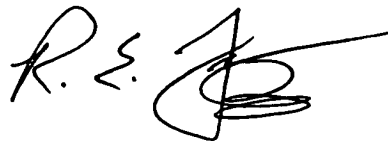
Furthermore, ending in the annular grooves 25, such elongated grooves can be manufactured much easier, for example by a laser beam. The elongated grooves (38) are normally applied at the end of the production process. When the grooves are manufactured using a laser beam it is quite difficult to place the end of the groove precisely at the edge (29) as shown in Figure 3. But it is much easier to extend the grooves inside the annular groove (25). Using a laser beam also has the advantage that the grooves (38) can be manufactured after hardening of the conical faces (20, 22), which is not possible using a grinding or milling process.

Claim 34 has been canceled and replaced by new claim 51, which incorporates claims 25, 28 and 34. The grooves (55) of the Haeberer reference appear to be significantly deeper than the microscopic grooves whose depth is less than 50 um as recited in claim 34. There is no teaching or rationale provided by either the Haeberer or Schorr references to make the grooves of the Haeberer reference microscopic. Furthermore, making these grooves microscopic allows for the use of a laser beam to generate them. As pointed out above, this achieves advantages which prior methods for providing these grooves cannot provide.

The Commissioner is authorized to charge a fee of \$200.00, for an additional independent claim as specified in the fee schedule for 2006, or any other necessary fees in connection with this communication, to Deposit Account Number 07-2100.

For the above reasons, entry of the amendment and allowance of the claims are courteously solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. E. Greigg', with a stylized flourish at the end.

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